

Amendments to the Drawings:

A replacement sheet attached to this paper replaces the sheet that previously included FIG. 4. FIG. 4 has been amended to remedy an objection raised against the drawings with regard to whether a central orifice 1100 as described in line 12 of page 6 of the specification of the above-referenced patent application as filed. FIG. 4 has been amended to add the reference numeral "1100," appearing now near the center of the drawing, and a lead line from the reference numeral to the periphery of the central orifice. Prior to this amendment, the periphery of the central orifice was illustrated, without a reference numeral, and would be discernible to one of ordinary skill in the art to which the claimed invention pertains. Thus, the Applicant submits that no new matter has been added by this amendment.

Furthermore, FIG. 4 has been amended to remedy an objection raised against the drawings with regard to whether a motor as cited in Claim 13 is shown in any of the drawings. FIG. 4 has been amended to add a diagrammatic representation of the motor and a lead line representing that the motor drives the illustrated cutting head. Prior to this amendment, the motor was a part of the disclosure of the patent application at least by way of Claim 13, as would be appreciated by one of ordinary skill in the art to which the claimed invention pertains. Thus, the Applicant submits that no new matter has been added by this amendment.

### **REMARKS/ARGUMENTS**

The Office Action raises numerous objections to the specification and drawings, and rejects Claims 1-13 under 35 U.S.C. § 112(2<sup>nd</sup> ¶). Furthermore, the Office Action rejects Claims 1-5 and 9-13 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,756,146 to Rouse. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Rouse patent in view of U.S. Patent No. 5,048,278 to Jones et al.

#### ***Objections Toward the Drawings***

Objections toward the drawings have been remedied by amendments herein as described on page 11 of this paper. The Applicant respectfully requests that the objections therefore be withdrawn.

#### ***Objections Toward the Written Specification***

An objection regarding section headings has been addressed by amendments made herein by way of added section headings and has therefore been remedied. Objections regarding the Abstract section of the specification have been addressed by amendments made herein and has therefore been remedied. Objections toward certain paragraphs of pages 2, 6, 7, and 11 have been addressed by amendments made herein by way of replacement paragraphs and have therefore been remedied.

The Applicant respectfully submits, however, that the phrase “outlet opening 115” in line 3 of page 14 requires no remedy. As shown in FIG. 9 of the drawings, and as detailed in lines 16-26 of page 14 of the specification, the teeth 404 of a shoe 400 engage the cutting string 300 when the device is in use impacting (and cutting) plants. The cutting string 300, when in use impacting plants, extends outwardly from the cutting head 100 (see also FIG. 8) by way of the opening 115 (FIG. 9). The opening 115 may therefore be reasonably called an “outlet opening.”

The Applicant respectfully submits that all objections toward the written specification have been addressed and requests that the objections be withdrawn.

***Claims Rejections Under 35 U.S.C. § 112(2<sup>nd</sup>)***

Rejections to Claims 1-13 with regard to the phrase “or similar” appearing in the preambles of Claims 1 and 13 have been remedied by removal of the phrase. The rejection of Claim 12 with regard to the antecedent basis of the phrase “the two parts” has been remedied by removal of the word “the” to clarify that the cited “two parts” are introduced in Claim 12 without need for antecedent basis.

On page 5 of the Office Action, Claim 13 is alleged to be confusing. The Applicant assumes this allegation was intended to be directed to Claim 12 as the cited language corresponds better to Claim 12. Claim 12 has been amended and the clarity thereof may be deemed improved. In any event, Claim 12, as amended, refers to a “recess” of the curved bearing zone. Claim 12 also refers to “two parts,” which are assembled to form the string passageway and the curved bearing zone. It should be understood that the “recess” is formed in the region where the “two parts” meet.

The Applicant respectfully submits that all rejections of the claims under 35 U.S.C. § 112 have been remedied or addressed and respectfully requests that these rejections be withdrawn.

***Claims Rejections Under 35 U.S.C. § 102(b)***

Claims 1-5 and 9-13 were rejected as being anticipated by the Rouse patent. Claim 1, as amended, relates to a cutting head comprising a cutting-string passageway and a curved bearing zone. The curved bearing zone extends between a string outlet region of the passageway and a peripheral region of the head. For example, in FIG. 4, the curved bearing zone 120 extends between the string outlet region 115 and the periphery of the cutting head. In order for a curved bearing zone to *extend between* a string outlet region and a periphery of a head, a string outlet region cannot be disposed directly along such a periphery. Thus, the curved bearing zone of Claim 1 represents a patentable distinction over the Rouse patent.

The Rouse patent illustrates and describes a string trimmer head having passages that open directly onto the periphery of the head. For example, in FIG. 4 the passage-ends 30 and 34 of the passage 14 open into the periphery of the head as described in lines 65-68 of column 3 of the Rouse patent. The passage ends serve as string outlet regions of the passages in that the

string 2 exits the passage 14 from the passage ends. Thus, string outlet regions are disposed along the periphery of the head in the Rouse patent, without any bearing zones or any other features extending between the string outlet regions and the periphery of the head. Thus, the Rouse patent does not anticipate and does not render obvious the curved bearing zone of independent Claim 1, which curved bearing zone extends between a string outlet region and the periphery of the head.

Therefore, Claim 1 is patentable over the Rouse patent. Claims 2-5 and 9-13, which depend directly or indirectly from Claim 1, are patentable of the Rouse patent at least for the reasons by which Claim 1 is patentable. Accordingly, the Applicant respectfully requests that the rejections set forth against Claims 1-5 and 9-13 be withdrawn.

#### ***Claims Rejections Under 35 U.S.C. § 103(a)***

Claims 6-8 were rejected as being unpatentable over the Rouse patent in view of the Jones patent. As described above, the Rouse patent fails to render obvious independent Claim 1. In this regard, the Jones patent does not provide for the shortcomings of the Rouse patent and thus their combination fails to adversely affect the patentability of Claim 1. Therefore, independent Claim 1 and Claims 6-8, which depend directly or indirectly from Claim 1, are patentable over the Rouse patent, the Jones patent, and their combination. Accordingly, the Applicant respectfully requests that the rejections set forth against Claims 6-8 be withdrawn.

#### ***New Claims 14-20 Are Patentable***

New Claim 14 depends indirectly from Claim 1, by way of Claim 10, and therefore is patentable at least for the reasons by which Claim 1 is patentable, as described above.

New Claim 15 relates to a cutting head having a circular periphery, the cutting head comprises a passageway for a cutting string and a curved bearing zone extending between an outlet region of the passageway and a peripheral region of the head. In Claim 15, the curved bearing zone has a radius of curvature greater than half the radius of the periphery of the cutting head. For example, in FIG. 4 of the above-referenced patent application, the radius "R" of the curved bearing zone 120 is greater than half of the radius of the periphery of the illustrated

cutting head, the latter radius measured from the center "C" to the outer circular periphery of the head. This generous radius of curvature of the curved bearing zone represents a patentable distinction of Claim 15 and is expected to advantageously reduce fatigue in a cutting string in use in a cutting head when the cutting head is rotated to cut vegetation.

The Rouse patent illustrates no curved bearing zones comparable to the curved bearing zone of Claim 15. In the Rouse patent, string outlet regions are disposed along the periphery of a cutting head, without any bearing zones or any other features extending between the string outlet regions and the periphery of the head, as described above with reference to *Claims Rejections Under 35 U.S.C. § 102(b)*. The Jones patent illustrates, for example in FIG. 5 thereof, only very small curved surfaces 55, which are clearly not greater than half the radius of the periphery of the illustrated cutting head. Indeed, the Rouse and Jones patents merely represent examples of cutting heads in which extreme flexions in the cutting strings likely occur, as described in lines 18-27 of page 1 of the above-referenced patent application, and over which embodiments of the invention, such as that claimed in Claim 15, are intended to improve. Thus, the Rouse patent, the Jones patent, and their combination fail to anticipate and fail to render obvious new Claim 15, and Claims 16-17 that depend therefrom. New claims 15-17 are therefore patentable over the Rouse and Jones patents.

New Claim 18, like new Claim 15, includes a generous radius of curvature of a curved bearing zone representing a patentable distinction and expected to advantageously reduce fatigue in a cutting string. In Claim 18, the curved bearing zone has a radius of curvature equal to or greater than a distance (D) by which a string passageway is offset from a central axis of a cutting head. For example, in at least an embodiment described in lines 26-29 of page 7 of the specification of the above-referenced patent application, the radius (R) illustrated in FIG. 4 is equal to or greater than the distance (D) by which the string passageway 112 is offset from the central axis (C) of the cutting head.

The Rouse patent illustrates no curved bearing zones comparable to the curved bearing zone of Claim 18, and the Jones patent illustrates only very small curved surfaces 55, which are clearly less than any distance by which the string passageways are offset from the central axis of a cutting head. Thus, the Rouse patent, the Jones patent, and their combination fail to anticipate

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and fail to render obvious new Claim 18, and Claims 19-23 that depend therefrom. New claims 18-23 are therefore patentable over the Rouse and Jones patents.

### ***Dependent Claims***

The patentability of each independent claim over the cited references has been argued as set forth above. The Applicant does not take this opportunity to argue the merits of the dependent claims. However, the Applicant does not concede that the dependent claims are not independently patentable and reserves the right to argue the patentability of the dependent claims at a later date if necessary.

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It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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